

ABSTRACT OF THE DISCLOSURE

5 A programmable, variable volume and pressure, coolant system regulating the amount of coolant flow to a cutting tool by controlling the speed of a coolant pump, and is comprised of a fluid control unit and an electrical control panel. The fluid control unit includes a pump and a AC pump motor operatively connected thereto. The electrical control panel includes: a power supply; circuit breakers; a computer; a variable frequency drive; control relays; and a junction block for making electrical connections to the control panel. The computer receives signals from the tool and a pressure transducer, and is programmed with information concerning the total flow area of the coolant orifices. Using this information, the computer determines an ideal pump speed, and sends a control signal to the variable frequency drive which in turn determines the pump motor speed. The coolant supply system also includes: a coolant supply line for routing coolant from the pump to the tool; a catch pan for collecting recycled coolant from the tool; a filter for removing impurities from the used coolant; a reservoir for storing coolant; and a return line for routing the recycled coolant to the reservoir and from the reservoir to the pump inlet.